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# Breaking The Log-Jam: Teaching The Teachers About Technology

Dr Shelley Kinash and Ron Kordyban

Like logs in a metaphoric lumber mill, educational technologies are streaming in faster than they can be gathered and processed. There are wikis, blogs, podcasts, social networks and a host of applications to complement the already robust world of mobile learning. Where things tend to get jammed-up is at the point of training. Someone needs to show teachers how and when to use these new e-learning tools. More and more schools and universities are hiring dedicated educators to provide professional development in the pedagogical use of educational technologies. However, just offering the professional development isn't enough. Teachers have to actively participate in the professional development and infuse the resulting knowledge, skills and attributes into their pedagogical approach. Simply put, the training must also be put into practice, with corresponding change in not just the tools, but also the teaching methods and process.

Consider this metaphor – a chainsaw salesman approaches a veteran lumberjack who is in the process of using an old fashioned axe and saw to fell his weekly quota of trees. "With this new modern chainsaw," boasts the salesman, "I'm sure you'll be able to double the amount of wood you cut." A bit sceptical, the lumberjack agrees to give it a go for the following week. Seven days later the

two meet up again, but to the salesman's surprise and dismay he is informed that the lumberjack experienced a dramatic drop in the number of trees felled. Convinced that something was amiss, the salesman starts up the chainsaw to see if it is malfunctioning, but finds it runs smoothly. Upon hearing the chainsaw come alive with a roaring buzz, the lumberjack remarks, "What's that funny noise?"

The rapid appearance of so many new e-learning tools has left schools struggling to keep their teaching staff trained and up-to-date with what they experience as an onslaught of changes. Finding the time, money, hardware and qualified people to provide adequate professional development in these areas are added obstacles that further hinder proper training. The resulting situation is not unlike that of the hapless lumberjack who was handed a chainsaw without proper instruction in its use. Educators may find themselves trying to do the equivalent of chopping their trees with an unstarted chainsaw, swinging it as they did their old axe, rather than quickly buzzing through trees with a fully operational power-tool.

Often the introduction of a new e-learning tool with a lack of training, or inadequate training, is worse than not introducing the e-learning tool at all. For, in the absence of the proper professional development, the likelihood of positive

results is dramatically reduced. It is likely that the teacher will attribute the failure to the tool rather than to the lack of training. Such a negative feedback loop, once set up, is hard to correct. So a teacher might try to set up a wiki, but in the absence of proper training on how to do one (both the technical and also the fundamental pedagogical foundation) the activity may fail. The likely result is that the teacher writes off wikis forever.

Why is educational technology such a hard sell? Why do the majority of teachers resist professional development in educational technology? How can we explain the metaphoric logjam? Research and experience explain there are several interactive factors.

First, teachers are busy and educational technology feels like one more 'have to do'. Avoiding professional development can be used as a means of avoiding the increased workload of integrating education technology into teaching.

Second, most teachers have attended technology professional development that is impractical and theoretical. If teachers are going to make the time to attend professional development, then the learning outcome needs to be the ability to implement the new skill in their teaching. At the workshop, the participants need to have hands-on experience with the education technology. They need to move beyond



hearing about to actually doing. They need to give it a go at the workshop.

Third, the plethora of new available education technology is overwhelming. If the professional development menu is too generous, teachers do not know where to begin. Which workshops and which technologies would be the most value-added? Which one(s) are most relevant to their particular teaching environment? Choosing the right technologies is usually a missing topic in professional development.

Fourth, technology heightens performance insecurities and can have a negative effect on one's self-esteem. Technology changes quickly and there are numerous skill elements. People feel foolish when they are not able to accomplish tasks that may be considered

basic to others. It always feels like one's peers are better equipped and better prepared for the integration of education technologies. Accordingly, education technology professional development can be a blow to one's ego. Not only might the educators pale in comparison to their colleagues, the students come to class with many years experience using dynamic technologies, whereas many teachers are still learning the basics.

Fifth, adopting new teaching tools and techniques often requires abandoning old ways and materials which have been created, well used, and finetuned over the years. This can be especially painful for an experienced educator who has invested a lot of time and effort in setting-up a library of tried and true resources.

The metaphoric lumberjack becomes attached to the old faithful axe and saw.

Sixth, many education technologies make teaching process and content transparent. Whereas the door to the classroom can be shut with the students as the only audience, online materials are visible to anyone with access privileges, which tends to include one's peers, and most probably one's superiors. To many, indeed most, having your work on display can be a bit unsettling. This can also discourage creative teaching, which may involve risk taking, for the fear of possible lacklustre results being accessible to others.

Research on technology resistance continues to uncover additional factors that lead teachers and other professionals to avoid professional development in

education technology. The six factors introduced above continue to be the most prevalent.

### A University-Level Professional Development Case

Bond University uses the Blackboard learning management system to support face-to-face teaching with technology-enhanced components. Bond University's brand on this system is called 'iLearn'. An audit of how lecturers are using iLearn revealed that many were complying only to the minimal usage policy. All of the learning units (called subjects at Bond University and equivalent to courses at some other Australian universities) are supplemented by an iLearn site. This site includes: the subject outline, email access, contact information, assessment descriptions, links to relevant student policies/procedures and some of the lecture materials, such as slideshows and sometimes lecture notes. Only pockets of teachers use the numerous interactive tools on iLearn. Although the system has many educational enhancing capacities such as discussion forums, methods of online e-assessment, blogs and wikis, very few teachers activated them and even fewer integrated them as core components of their pedagogical process.

Research demonstrates that learning is improved through the integration of interactive education technology into teaching design and process. The problem facing the academic developers at Bond University was how to get the teachers to buy in to education technology and use the interactive tools in a manner that would make a difference to student learning.

We designed an academic development system that addressed each of the six key technology resistance factors as outlined above.

First, the professional development schedule is reasonable and flexible as to not overburden teachers who already have full loads. Not only does the professional development have to be realistic in scope, it also needs to be perceived as worthwhile and ideally, fun. Volunteer participants,

rather than metaphoric prisoners, help to build a positive, supportive and optimistic group ready for synergy. We always try to either begin with or create enthusiasts who champion the use of educational technology.

Second, the professional development is hands-on and practical. The teachers learn through doing and beyond the professional development, seamlessly continue with the students. By actually rolling up their sleeves and taking a hands-on approach in the workshops, we find the participants becoming more confident and thus more likely to engage in the tasks with their own students.

Third, the program of professional development is pre-organised and drip-fed, so that while rich and compelling, it is also perceived as manageable and prioritised. We decide which education technologies are the most value-added to our students, and develop these with our teachers.

Fourth, the training process accommodates all levels of technological skill, experience and enthusiasm. While some teachers benefit from the idea-generation and application-sharing of group workshops, others need to launch in non-embarrassing one-on-one sessions. By catering to the individual needs of the participants, we attract and engage a larger spectrum of educators.

Fifth, professional development is designed to have the feel of master-classes rather than beginner sessions. Most teaching academics are renowned in their disciplines and celebrated teachers. Professional development in education technology needs to feel like a reward and enhancement rather than remedial instruction.


Sixth, improvements to one's teaching process are immediately apparent. The iLearn sites are growing and improving in variety and robustness and have been doing so immediately and incrementally. No one needs to wait until after the professional development series is complete to reap the rewards.

### Reasons Teachers Avoid Technology Training

Ways to Get Teachers to Participate

- Increased workload.
- 1. Make it realistic and fun.
- Perceived irrelevance.
- 2. Make it hands-on and practical.
- Overwhelming.
- 3. Drip-feed the most useful technologies.
- Techno-phobia.
- 4. Offer group and one-on-one training.
- Commitment to old ways.
- 5. Reinforce through master classes.
- Teaching out-loud.
- 6. Let improvements happen now.

In summary, we identified some of the problems in teaching educators how to teach with technology and provided practical solutions to these problems. It worked. We know it worked because of the positive feedback from both teachers and students. We witnessed a rise in the attendance of workshops, and requests for more and longer sessions. We are encouraged by the quantity and quality of sharing and cooperation in the professional development sessions as well as extended collaboration afterwards. Regardless of the faculty, age or gender of the participants, the common thread seems to be a spirit of excitement and anticipation.

Education technology gives us new gadgets and techniques that educators can hang on their tool belts, to aid and assist them and make teaching and learning better for all. With proper training and support, it would seem that even an old school lumberjack can take advantage of these modern tools to enhance and revitalise his trade. Perhaps with more chainsaws and fewer axes and dynamic user-training, the educational logjam of today can become a thing of the past. 

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